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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,657	03/17/2004	Albert J. DeCoster	ITW7510.083	2656

33647 7590 12/01/2006

ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (ITW)  
136 S WISCONSIN ST  
PORT WASHINGTON, WI 53074

EXAMINER
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KERNS, KEVIN P

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/708,657

**Applicant(s)**

DECOSTER ET AL.

**Examiner**

Kevin P. Kerns

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 22-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION*****Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 22-54 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-17, 23, and 24 of copending Application No. 10/605,546 (also see equivalent US 2005/0016979).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims include at least the following common features: a welding torch configured to present an electrode to a weld; an enclosure (welder housing); a power conditioner (power source/supply) disposed within the enclosure; a cooling system having a coolant tank and a spout disposed within the enclosure to circulate coolant through the welding torch/component via coolant hoses (providing

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supply and return paths for the coolant); a controller operable to control the cooling system and power conditioner; a means to automatically commence coolant circulation through the torch when the electrode is presented to the weld; a means to maintain coolant circulation until expiration of a specific time period and until a temperature falls below a certain value; a heat exchanger and water pump assembly; and at least one check valve integrated with the cooling system. One of ordinary skill in the art would have recognized that the additional features present for the welding/cooling systems of copending Application No. 10/605,546 would selectively be present on the welding/cooling systems of the present application, as open-ended "comprising" language is present in the current application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

3. Claims 22-54 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 24-43 of copending Application No. 10/604,459 (also see equivalent US 2005/0016978). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims include at least the following common features: a welding torch configured to present an electrode to a weld; an enclosure (welder housing); a power conditioner (power source/supply) disposed within the enclosure; a cooling system having a coolant tank and a spout disposed within the enclosure to circulate coolant through the welding torch/component via coolant hoses (providing

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supply and return paths for the coolant); a controller operable to control the cooling system and power conditioner; a means to automatically commence coolant circulation through the torch when the electrode is presented to the weld; a means to maintain coolant circulation until expiration of a specific time period and until a temperature falls below a certain value; a heat exchanger and water pump assembly; and at least one check valve integrated with the cooling system. One of ordinary skill in the art would have recognized that the additional features present for the welding/cooling systems of copending Application No. 10/604,459 would selectively be present on the welding/cooling systems of the present application, as open-ended "comprising" language is present in the current application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 22-39, 43, 47, and 51-54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 22-28, 30, 31, 33-38, 43, 47, and 51-54, the phrase "or the like" (in this instance, the term "type") renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like",

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or “type”), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d). The limitations “welding-type component” (claims 22, 24-26, 28, 30, 31, 34-36, 38, 43, 47, and 51-54), “weld-type area” (claims 22 and 30), “welding-type output” (claims 23 and 32), “welding-type process” (claims 27 and 37), “welding-type power source” (claim 54), “welding-type power” (claim 54), “welding-type work area” (claim 54), and “welding-type power means” (claim 54) include this indefinite term. For example, what defines a “welding-type component”, a “weld-type area” etc.? In addition, why wouldn't a “welding-type output” be any type of output voltage for other high voltage power supplies and transformers, such as for use in power plants?

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 22-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Prunier (FR 2 536 320) or Behnke et al. (US 2,510,207) in view of Bailey (US 5,266,778).

Prunier discloses an arc welding machine that includes a refrigeration unit for torch cooling, in which the welding machine further includes a welding torch configured to present an electrode to a weld; an enclosure (welder housing) with a base plate, side plates, end plates, and a top cover; a power conditioner (power source/supply) disposed within the enclosure; a cooling system having a coolant tank and a spout disposed within the enclosure to circulate coolant through the welding torch/component via coolant hoses (providing supply and return paths for the coolant); a controller operable to control the cooling system and power conditioner; a means to automatically commence coolant circulation through the torch when the electrode is presented to the weld; a means to maintain and terminate coolant circulation; a heat exchanger and water pump assembly; and at least one check valve integrated with the cooling system (abstract; translated French text of specification and claims in the paragraph bridging pages 3 and 4, paragraph bridging pages 6 and 7, detailed description on pages 7-11, last two paragraphs on page 11 and bridging to page 12, claims 5 and 6; and Figure).

Also, Behnke et al. disclose a fluid control system for inert gas blanketed arc welding, in which the welding machine further includes a welding torch T with a cooling

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jacket J configured to present an electrode E to a workpiece to be welded W; a power conditioner (power source/supply); a cooling system having a coolant tank (manifold) and a spout operable to circulate coolant through the welding torch/component via coolant hoses (providing supply and return paths for the coolant); a controller operable to control the cooling system and power conditioner; a means to automatically commence coolant circulation through the torch when the electrode is presented to the weld; a means to maintain and terminate coolant circulation; a heat exchanger and water pump assembly; and at least one check valve integrated with the cooling system (column 1, line 1 through column 3, line 61; and Figure).

Neither Prunier nor Behnke et al. specifically discloses a means to maintain coolant circulation until expiration of a specific time period and/or until a temperature falls below a certain value (i.e. threshold, predetermined value, and/or certain set point after deactivation of the welding machine), in which one or more temperature sensors in cooperation with a dynamic control means would be required.

However, Bailey discloses a dynamic temperature control for use with a heating/cooling system having a fluid reservoir 28 including at least one temperature sensor (fluid temperature sensor 30 and remote temperature sensor 32), in which the dynamic temperature control 10 (see Figure 1) includes logic circuitry to receive temperature input signals from a control panel and at least one temperature sensor (30,32) to control the operating temperature of the fluid circulated through the fluid circulating system, and is operable to receive a temperature set point signal (column 3, lines 3-14) corresponding to a desired temperature set point from a temperature set



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point control 22, such that the temperature sensors in cooperation with a dynamic control means are advantageous for providing accurate, dynamic control of fluid temperature until expiration of a specific time period and/or until a temperature falls below a predetermined certain value, or set point (abstract; column 1, lines 9-11; column 2, lines 15-68; column 3, lines 1-14 and 55-68; column 4, lines 1-39 and 67-68; column 5, lines 1-2 and 40-47; and Figures 1-3).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify either of the arc welding machines disclosed individually by Prunier and Behnke et al., by using a temperature sensor in cooperation with a control means to maintain coolant circulation while establishing a desired temperature set point, as taught by Bailey, in order to provide accurate, dynamic control of fluid temperature until expiration of a specific time period and/or until a temperature falls below a predetermined certain value, or set point (Bailey; abstract; column 1, lines 9-11; column 2, lines 15-68; and column 3, lines 1-14).

### ***Response to Arguments***

9. The examiner acknowledges the applicants' amendment/response and petition under 37 CFR 1.144 received by the USPTO on September 26, 2006. The applicants' amendment overcomes the prior objection to claim 22. In view of the applicants' petition, the restriction requirement has been withdrawn. However, the provisional double patenting rejections (above sections 2 and 3), and the 35 USC 112, 2<sup>nd</sup>

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paragraph rejections (above section 5) remain, and these items will be addressed in further detail below. Claims 22-54 are currently under consideration in the application.

10. Applicants' arguments filed September 26, 2006 (for claims 22-39) have been fully considered but they are not persuasive.

With regard to the applicants' remarks/arguments on pages 8-15 of the amendment dated September 26, 2006, the applicants have provided arguments addressing the following: 1) the restriction requirement, double patenting rejections, and 35 USC 112, 2<sup>nd</sup> paragraph rejections on pages 8-10; and 2) the 35 USC 103(a) rejections on pages 11-15.

First, in addressing the applicants' arguments on pages 8-10 of the amendment, the applicants' petition under 37 CFR 1.144 dated September 26, 2006 to withdraw the restriction requirement mailed March 17, 2006 (made final in the Office Action mailed June 26, 2006) has been considered and granted in the decision on petition to be mailed in an upcoming communication. In addition, the applicants requested reconsideration of the double patenting rejections on pages 8 and 9 of their remarks/arguments. However, the double patenting rejections are maintained for the same reasons set forth in the prior Office Action (see above sections 2 and 3) since the claims of the present application and the claims in the co-pending applications share common features in terms of structural and/or functional limitations. Since claims of the present application lack additional features, most of the present claims are within the scope of the claims of the co-pending applications, thus the term "comprising" is used to

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refer to obviousness of a subset of a larger number of claimed features in the co-pending applications. Also, the examiner has removed claims 18-22 from above section 2 because those claims are method claims, rather than apparatus/system claims of the present application. Furthermore, since the restriction requirement has been withdrawn, the applicants' major argument against the double patenting rejections is rendered moot. Regarding the 35 USC 112, 2<sup>nd</sup> paragraph rejections, it is noted that the applicants have failed to respond to the two exemplary questions set forth in section 7 of the prior Office Action (see above section 5), and therefore have not defined the term "type" in the claims. In their attempt to define a "welding-type system" (which is cited as being in the specification, but is in fact not even present in any of claims 22-54), the applicants have not defined the indefinite "welding-type component", "weld-type area", "welding-type output", "welding-type process", etc. – all of which continue to be present in the listed claims. To overcome 35 USC 112, 2<sup>nd</sup> paragraph rejections, the applicants are suggested to delete the term "type" in all instances. It is also noted that the listing of claim numbers in the last paragraph of page 10 is incorrect, as claims 22-39 were previously under consideration in this application, not claims 1-10, 20-27, 29, and 30.

Second, in addressing the applicants' arguments addressing the 35 USC 103(a) rejections on pages 11-15 of the amendment, the applicants' major argument relies upon their multiple assertions on pages 12-14 that the Bailey reference is allegedly not properly combined (i.e. allegedly "teaches away" and includes improper hindsight analysis) under 35 USC 103(a) with either of the Prunier and Behnke et al. references (both references of which are properly and nearly equally applicable -- despite the

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applicants' statement that refers to MPEP 706.02 in the paragraph near the middle of page 11). The primary references (Prunier and Behnke et al.) disclose the features of the welders with coolant circulation systems set forth in the claims (inclusive of the claimed "sensing device" as a portion of their respective controllers that include relays, switches etc. – contrary to the applicants' statement in the 3<sup>rd</sup> paragraph of page 14), but both references fail to specifically disclose a means to maintain coolant circulation until expiration of a specific time period and/or until a temperature falls below a certain value, in which one or more temperature sensors in cooperation with a dynamic control means would be required. Other than the alleged lacking of the "sensing device" addressed above, it is noted that the applicants have not provided further arguments against the teachings of Prunier and Behnke et al. (both of which set forth welders having coolant circulation), but their arguments have been provided chiefly to attack the alleged deficiencies of the Bailey reference. In their arguments against Bailey, the applicants have not appeared to have taken a view of what one of ordinary skill in the art would have known about the teachings of the welders having coolant circulation systems disclosed by Prunier and Behnke et al. For example, the applicants' arguments throughout pages 12-14 state that the system disclosed by Bailey is used as a heat exchanger with a particular set point for temperature regulation, and is not in cooperation with coolant circulation, as such features of the coolant circulation are already disclosed in Prunier and Behnke et al. The examiner respectfully disagrees with the applicants' statement that Bailey "teaches away" from their invention since that system would be used as a heat exchanger and not define a "controller" (in reference to

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the 2<sup>nd</sup> paragraph of page 13) as claimed, as the temperature sensors (fluid sensor 30 and remote sensor 32) cooperate with dynamic temperature control 10 (see Figure 1) to be used for cooling the system as well, in the absence of the optionally applied voltages stated by the applicants on page 13. As a result, Bailey does not "teach away" from either of the Prunier and Behnke et al. references. As shown in above section 8, Bailey includes temperature sensors and a dynamic control means, and is thus applied to remedy the deficiencies of Prunier and Behnke et al., for the purpose of providing accurate, dynamic control of fluid temperature until expiration of a specific time period and/or until a temperature falls below a predetermined certain value, or set point.

In response to applicants' arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

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**Conclusion**

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571) 272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns *Kevin Kerns 11/28/06*  
Primary Examiner  
Art Unit 1725

*KPK*

kpk

November 28, 2006